



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,176	12/04/2001	Edward Benyukhis	CE086251	2846
22917	7590	09/08/2004	EXAMINER	
MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196			CHEN, ALAN S	
			ART UNIT	PAPER NUMBER
			2182	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/006,176	BENYUKHIS ET AL.	
	Examiner	Art Unit	
	Alan S Chen	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED FINAL ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by No. 6,567,912 to Belkin et al. (hereafter Belkin).

3. As per claims 1 and 8, Belkin discloses a method and system for improved initialization of a high availability system (Fig. 1, element 1) that comprises a controller component and a plurality of peripheral components (Fig. 1, element 112, 114 and 116), the method and system comprising:

applying power by a controller component (Fig. 1, element 104) to a first peripheral component (Fig. 1, element 112 and Fig. 2, element 206, the controller component boots/powers up the first device on the list, e.g., book program device #1).

when initialization of the first peripheral component is received by controller component storing an identifier of the first peripheral component (Fig. 1, element 126, where identifiers are whether initialization passed or failed); applying power (e.g., booting) by the controller component to a next peripheral component (Fig. 2, element 212).

when the first peripheral component, while initializing, locks up the bus that the controller component and the plurality of peripheral devices share (when watch-dog timer

Art Unit: 2182

expired, Fig. 2, element 216), restarting the power-up sequence (initializing the next device, e.g., going to the next device on the boot list and Fig. 1, element 122 Fig. 2, element 228, attempt to reboot failed device); determining that an identifier of the first peripheral component was not stored (e.g., had a failed status, and not storing the pass status) and skipping first peripheral component that failed (the first device failed, it is skipped and the next device is initialized so that the boot sequence is not hung on trying to initialize the first device, Column 2, lines 54-64; it can be seen in Belkin, Fig. 2, that if the device failed twice to initialize then there is no procedure after the second failure to attempt to initialize the device again, and hence, the device is left as failed. It would clearly not be logical for the device to constantly be rebooted if it has failed twice already, since this would consume much time on the bus).

4. As per claims 2 and 9, Belkin discloses the method and system of claims 1 and 8, respectively, wherein restarting the power-up sequence comprises reinitializing the high availability system (Fig. 2, element 228, act of rebooting is equivalent to reinitialization where the state machine of the system started at its initial state).

5. As per claims 3 and 10, Belkin discloses the method and system of claims 2 and 9, respectively, further comprising the step of both expiring by a watchdog timer (Fig. 2, element 216) and triggering the re-initialization of the high availability system (Fig. 2, element 226), when the first peripheral component locks up the bus (note that the first peripheral component of Belkin can clearly have the potential to LOCK up. Belkin invention of robust initialization is to deal with any device that locks up).

6. As per claims 4 and 11, Belkin discloses the method and system of claims 2 and 9, respectively, wherein storing comprises storing the identifier in a memory device

Art Unit: 2182

whose contents survive a reinitialization of the high availability system (the identifier PASS and FAIL, Fig. 1, elements 126 and 136 are the result of surviving a reinitialization, Fig. 2, element 226, e.g., if the device failed the reinitialization again, then it is still marked with a “FAILED” status. Also, the boot marker (Fig. 1, element 120, is also an identifier indicating which device to boot next, stored in the memory device).

7. As per claims 5 and 12, Belkin discloses the method and system of claims 4 and 11, respectively, wherein the memory device comprises a non-volatile random access memory (Fig. 1, element 108).

8. As per claims 6 and 13, Belkin discloses the method and system of claims 1 and 8, respectively, wherein storing comprises storing a value in a location in a memory array (Fig. 1, element 108) that corresponds to the first peripheral component (Fig. 1, element 122).

Art Unit: 2182

9. As per claims 7 and 14, Belkin discloses the method and system of claims 6 and 14, respectively, wherein clearing the contents of the location in the memory array corresponds to the first peripheral component prior to the step of applying power to the first peripheral component (this case is anticipated by Belkin by his boot marker, Fig. 1, element 120. In Fig. 2, element 222, it can be seen that the boot marker is erased and updated prior to the power on of the device that the updated boot marker is pointing to. This makes sense since the controller always will need to know which device to power on before it can actually apply the power).

Response to Arguments

10. Applicant's arguments filed 07/20/2004, with respect to the rejection(s) of claim(s) 1-14 under 35 U.S.C §102(e) have been fully considered but they are not persuasive. Examiners reasons are given below.

Rejections under 35 U.S.C. 102(e)

Claims 1-14

11. Applicant argues that Belkin does not teach locking up a bus when a peripheral device is initializing on page 6. It appears the issue of contention is what the phrase "lock up the bus" means.

One of ordinary skill in the art would know that the phrase "lock up the bus" means a situation where a bus is being shared among multiple devices, where a subset of the devices that use the bus occupy the entire bandwidth of the bus so that other devices cannot use it and is required to wait until the said subset of devices has finished communication. It is inherently and expressly disclosed by Belkin by the use of the watch dog timer (Column 2, lines 54-65 and Column 3, lines 8-14). The watch dog timer

Art Unit: 2182

prevent initialization from taking occupying the bus for too long a period of time, giving the opportunity to other devices for initialization. The fact that the watch dog timer has expired, particularly in the case when a device has failed, inherently points to the bus locking up. In addition, it is expressly given that the bus is locked up when the failed device is given another opportunity to initialize and fails again (Fig. 2, element 236).

12. Applicant argues that storing a “failed” to indicate a failed boot attempt does not teach or suggest determining that an identifier of a peripheral component was not stored in the present application, the identifier of an initializing peripheral component is not stored because the bus that the controller component and the peripheral component share is locked up. Thus, a determination is being made of whether the bus locked up last time the peripheral component initialized, not just whether a failed status was stored”.

Examiner contends the identifier that Belkin discloses is equivalent to applicants definition. The identifier “passed” is not stored, e.g., a value of “0” (Column 2, line 40), but instead, a failed status identifier is stored, identifying the peripheral component as being in the failed to initialize status, and skips that failed device and goes to the next device in the sequence, preventing the bus from being locked up at the failed device (Column 2, lines 54-65). The determination is made as to whether the bus was locked up last time the peripheral component initialized, as pointed out in Column 2, lines 63-65, where the boot marker then points again to the failed device and tries to reinitialize it.

13. Applicant argues; “Belkin not only does not teach or suggest skipping the first peripheral component in the power-up sequence but Belkin teaches the opposite...Belkin teaches attempting to initialize those devices, and only those devices, that failed their first

Art Unit: 2182

initialization attempt. The present application claims the opposite. When the first peripheral component, while initializing, locks up the bus that the controller component and the plurality of peripheral components share, the power-up sequence is restarted, and the first peripheral component in the power-up sequence is skipped (as a result of the step of determining that an identifier of the first peripheral component was not stored) in order to prevent the bus from locking up again. If the teachings of Belkin, as cited by the Examiner, were applied to an embodiment of the present application, the peripheral component that locked up the bus the first time would be powered up for another chance to lock up the bus and force yet another power-up sequence restart”.

Examiner disagrees. As pointed out in the previous arguments by Examiner, Belkin teaches that the first time a failed device is detected, it is skipped, so that the system is not hung on trying to restart the device. After all the devices have been initialized, the failed device is *then* retried in attempt to successfully initialize it. This is expressly supported in Column 2, lines 54-65, where the boot marker points to the next device, e.g., it does not re-point to the failed initialization device but instead, skips it for later and goes on to the next device. Therefore, it is clearly anticipated that when the first component in the boot marker list is the failed device, it locks up the bus (e.g., during the time the watch dog timer is running, the bus is solely dedicated to the first device), and when the watch dog timer expires, the initialization power-up sequence is restarted for the next device on the list, the first failed device being skipped until all the other devices have been initialized and hence preventing the bus from being locked up again on the first failed device. This is not contrary to what applicant is claiming, but in fact, directly in line with it.

Art Unit: 2182


Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S Chen whose telephone number is 703-605-0708. The examiner can normally be reached on M-F 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A Gaffin can be reached on 703-308-3301. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Art Unit: 2182

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ASC
09/02/2004